

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims:

1. (Currently Amended) A network environment supporting multiple peer-to-peer relay networks, comprising:

a main peer-to-peer relay network including all peer systems in the multiple peer-to-peer relay networks, at least one of the peer systems including at least one processor, the main peer-to-peer network having sub-networks within the main peer-to-peer relay network, wherein each peer system of a sub-network is also a member of the main peer-to-peer relay network;

a first peer-to-peer relay network including a plurality of first peer systems that are a first sub-network of the main peer-to-peer relay network, at least one of said first peer systems including at least one processor, and including a first particular peer system and a second particular peer system;

a second peer-to-peer relay network including a plurality of second peer systems that are a second sub-network of the main peer-to-peer network, at least one of said second peer systems including at least one processor, and including the first particular peer system and the second particular peer system; and

wherein the first particular peer system has a connection to the second particular peer in the first peer-to-peer relay network and the first particular peer system does not have a connection to the second particular peer in the second peer-to-peer relay network, and

wherein a message addressed from a peer in the first peer-to-peer relay network to another peer in the first peer-to-peer relay network is relayed only to peers in the first peer-to-peer relay network, and

wherein a message addressed from a peer in the first peer-to-peer relay network to a peer in the main peer-to-peer relay network before the first sub-network is established is relayed to all peers in the main peer-to-peer relay network, and

~~wherein each peer independently maintains a list of available networks and a list of peers in each network.~~

2. (Original) The network environment of claim 1, further comprising:
a server connected to each peer system.

3.- 6. (Canceled)

7. (Currently Amended) The network environment of claim [[5]] 1, wherein:
the peer systems in said first peer-to-peer relay network represent players in an online game.

8. (Previously Presented) The network environment of claim 7, wherein:
the peer systems in said first peer-to-peer relay network represent players in said online game that are on the same team.

9. (Original) The network environment of claim 1, wherein:
data relayed in said first peer-to-peer relay network is network service data.

10. (Original) The network environment of claim 1, wherein:
data relayed in said first peer-to-peer relay network is data for an online environment.

11. (Original) The network environment of claim 10, wherein:
data relayed in said first peer-to-peer relay network is data for a lobby environment.

12. (Previously Presented) The network environment of claim 11, wherein:
data relayed in said first peer-to-peer relay network is data for a chat room in said lobby
environment.

13. (Original) The network environment of claim 10, wherein:
data relayed in said second peer-to-peer relay network is data for an online game.

14. (Previously Presented) The network environment of claim 1, further
comprising:
another peer-to-peer relay network including N3 peer systems;
wherein each peer system in said another peer-to-peer relay network is connected to a
number of other peer systems in said another peer-to-peer relay network that is less than or equal
to a third connection limit, said third connection limit is greater than or equal to 2, said third
connection limit is less than or equal to N3-2, each peer system in said another peer-to-peer relay

network is configured to relay data to peer systems connected to that peer system according to a third set of one or more relay rules, and

wherein at least one peer system in said another peer-to-peer relay network is also in said first peer-to-peer relay network.

15. (Previously Presented) The network environment of claim 14, wherein:
none of the peer systems in said another peer-to-peer relay network are in said first peer-to-peer relay network.

16. (Original) The network environment of claim 1, wherein:
at least one peer system is a network-enabled game console.

17. (Original) The network environment of claim 1, wherein:
at least two peer systems are connected through the Internet.

18. (Currently Amended) A method of relaying data in a peer-to-peer relay network, comprising:

establishing a main peer-to-peer relay network including all peer systems in the peer-to-peer relay network, at least one of the peer systems including at least one processor, the main peer-to-peer network having sub-networks within the main peer-to-peer relay network, wherein each peer system of a sub-network is also a member of the main peer-to-peer relay network;

establishing a first peer-to-peer relay network including a plurality of first peer systems that are a first sub-network of the main peer-to-peer relay network, at least one of said first peer

systems including at least one processor, and including a first particular peer system and a second particular peer system;

establishing a second peer-to-peer relay network including a plurality of second peer systems that are a second sub-network of the main peer-to-peer network, at least one of said second peer systems including at least one processor, and including the first particular peer system and the second particular peer system;

wherein the first particular peer system has a connection to the second particular peer in the first peer-to-peer relay network and the first particular peer system does not have a connection to the second particular peer in the second peer-to-peer relay network;

receiving data at a relaying peer system in the first peer-to-peer relay network from a sending peer system connected to the relaying peer system;

selecting another peer in the first peer-to-peer relay network corresponding to said received data; and

relaying said data to the another peer system,

wherein a message addressed from a peer in the first peer-to-peer relay network to another peer in the first peer-to-peer relay network is relayed only to peers in the first peer-to-peer relay network, and

wherein a message addressed from a peer in the first peer-to-peer relay network to a peer in the main peer-to-peer relay network before the first sub-network is established is relayed to all peers in the main peer-to-peer relay network, ~~and~~

~~wherein each peer independently maintains a list of available networks and a list of peers in each network.~~

19. (Original) The method of claim 18, wherein:

said relaying peer system is in two or more peer-to-peer relay networks, and said relaying peer system has respective sets of one or more connections to other peer systems for each peer-to-peer relay network to which said relaying peer system belongs.

20. (Original) The method of claim 18, wherein:

said relaying peer system stores a respective connection limit and a respective set of one or more relay rules for each peer-to-peer relay network to which said relaying peer system belongs, a connection limit defines a number of other peer systems up to which a peer system is permitted to connect in that peer-to-peer relay network, and a set of one or more relay rules defines how a peer system is to relay data to other peer systems connected to that peer system in that peer-to-peer relay network.

21. (Currently Amended) A peer system in a peer-to-peer relay network,
comprising:

means for establishing a main peer-to-peer relay network including all peer systems in the peer-to-peer relay network, at least one of the peer systems including at least one processor, the main peer-to-peer network having sub-networks within the main peer-to-peer relay network, wherein each peer system of a sub-network is also a member of the main peer-to-peer relay network;

means for establishing a first peer-to-peer relay network including a plurality of first peer systems that are a first sub-network of the main peer-to-peer relay network, at least one of said

first peer systems including at least one processor, and including a first particular peer system and a second particular peer system;

means for establishing a second peer-to-peer relay network including a plurality of second peer systems that are a second sub-network of the main peer-to-peer network, at least one of said second peer systems including at least one processor, and including the first particular peer system and the second particular peer system;

wherein the first particular peer system has a connection to the second particular peer in the first peer-to-peer relay network and the first particular peer system does not have a connection to the second particular peer in the second peer-to-peer relay network;

means for receiving data at a relaying peer system in the first peer-to-peer relay network from a sending peer system connected to the relaying peer system;

means for selecting another peer in the first peer-to-peer relay network corresponding to said received data; and

means for relaying said data to the another peer system,

wherein a message addressed from a peer in the first peer-to-peer relay network to another peer in the first peer-to-peer relay network is relayed only to peers in the first peer-to-peer relay network, and

wherein a message addressed from a peer in the first peer-to-peer relay network to a peer in the main peer-to-peer relay network before the first sub-network is established is relayed to all peers in the main peer-to-peer relay network, ~~and~~

~~wherein each peer independently maintains a list of available networks and a list of peers in each network.~~

22. (Original) The peer system of claim 21, wherein:

said peer system is in two or more peer-to-peer relay networks, and said peer system has respective sets of one or more connections to other peer systems for each peer-to-peer relay network to which said peer system belongs.

23. (Original) The peer system of claim 21, wherein:

said peer system stores a respective connection limit and a respective set of one or more relay rules for each peer-to-peer relay network to which said peer system belongs, a connection limit defines a number of other peer systems up to which a peer system is permitted to connect in that peer-to-peer relay network, and a set of one or more relay rules defines how a peer system is to relay data to other peer systems connected to that peer system in that peer-to-peer relay network.

24. (Currently Amended) A non-transitory computer-readable storage medium having a computer-readable program embodied therein, said computer readable program adapted to be executed to implement a peer system in a peer-to-peer relay network, the method comprising:

establishing a main peer-to-peer relay network including all peer systems in the peer-to-peer relay network, at least one of the peer systems including at least one processor, the main peer-to-peer network having sub-networks within the main peer-to-peer relay network, wherein each peer system of a sub-network is also a member of the main peer-to-peer relay network;

establishing a first peer-to-peer relay network including a plurality of first peer systems that are a first sub-network of the main peer-to-peer relay network, at least one of said first peer

systems including at least one processor, and including a first particular peer system and a second particular peer system;

establishing a second peer-to-peer relay network including a plurality of second peer systems that are a second sub-network of the main peer-to-peer network, at least one of said second peer systems including at least one processor, and including the first particular peer system and the second particular peer system;

wherein the first particular peer system has a connection to the second particular peer in the first peer-to-peer relay network and the first particular peer system does not have a connection to the second particular peer in the second peer-to-peer relay network;

receiving data at a relaying peer system in the first peer-to-peer relay network from a sending peer system connected to the relaying peer system;

selecting another peer in the first peer-to-peer relay network corresponding to said received data; and

relaying said data to the another peer system,

wherein a message addressed from a peer in the first peer-to-peer relay network to another peer in the first peer-to-peer relay network is relayed only to peers in the first peer-to-peer relay network, and

wherein a message addressed from a peer in the first peer-to-peer relay network to a peer in the main peer-to-peer relay network before the first sub-network is established is relayed to all peers in the main peer-to-peer relay network, and

wherein each peer independently maintains a list of available networks and a list of peers in each network.

25. (Previously Presented) The computer-readable storage medium of claim

24, wherein:

said peer system is in two or more peer-to-peer relay networks, and said peer system has respective sets of one or more connections to other peer systems for each peer-to-peer relay network to which said peer system belongs.

26. (Previously Presented) The computer-readable storage medium of claim

24, wherein:

said peer system stores a respective connection limit and a respective set of one or more relay rules for each peer-to-peer relay network to which said peer system belongs, a connection limit defines a number of other peer systems up to which a peer system is permitted to connect in that peer-to-peer relay network, and a set of one or more relay rules defines how a peer system is to relay data to other peer systems connected to that peer system in that peer-to-peer relay network.